**K-5 Math Lesson Plan**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Teacher: Aldous/Wells** | | | **Grade: 5** | | | **Date(s)**: August/September 2012 |
| **Unit Title:**  Unit 1 – Understand the Decimal Place Value System | | | | **Corresponding Unit Task:**  **“2012 Summer Olympics – Who Gets the Gold?”**  **(Teach Prior to task 3)** | | |
| **Essential Question(s):**  **How do I use place value understanding to round decimals to any place?** | | | | | | |
| **Materials/Resources** | | | | **Essential Vocabulary** | | |
| **Teacher:**  **Whiteboard, markers, set of index cards, videos of world records being set, plastic/paper money** | | **Student:**  **Pencil, math journal** | | | **Thousands, hundreds, tens, ones, tenths, hundredths, thousandths, compare, < less than, greater than>, equal to =**  **Optional words: ascending order, descending order** | |
| **Learning Experience** | | | | | | |
| **8 Mathematical Practices:**  √ 1. Make sense of problems and persevere in solving them.  √ 2. Reason abstractly and quantitatively.  √ 3. Construct viable arguments and critique the reasoning of others.  √ 4. Model with mathematics.  √ 5. Use appropriate tools strategically.  √ 6. Attend to precision.  7. Look for and make use of structure. √ 8. Look for and express regularity in repeated reasoning. | **Common Core State Standards:**  **5.NBT.4**  **Use place value understanding to round decimals to any place.** | | | | | |
| **I Can Statement(s):**  **-I can round decimals to the tenths and hundredths place** | | | | | |
| **Activating Strategy/Hook:** (How will students become cognitively engaged and focused?)  Using index cards, write the standard form, expanded form and word form of a number on separate cards. Create enough numbers to ensure each student gets one index card. Mix the cards and pass them out. The students then have to find the forms that match their card. After all the students have found their matches, each group shares their number form with the class. | | | | | |
| **Teacher Directed:**  **Display the following problem:**  **-**An Olympic sized swimming pool is 50 meters or 164.049 feet long. Round the length of the pool, in feet, to the ones place, tenths place and hundredths place.  **Begin Discussion**  How do we round decimals? (May use rounding Vocabulary card to help explain “moving up” or staying same)  Rounding decimals is done exactly like rounding whole numbers. Use the “raps” below to remind the students how to round.  -5 or more, raise the score  4 or less, let it rest  -5 and above, give it a shove  4 and below, let it go  Rounding to the ones place: 164.**0**49 the 0 in the tenths place will leave the ones as a “4”  Rounding to the tenths place: 164.0**4**9 the 4 in the hundredths place will leave the tenths as a “0”  Rounding the hundredths place: 164.04**9** the 9 in the thousandths place will round the 4 up to a “5”  As students are working, emphasize the importance of identifying and labeling the digit to the right as they are determining when to round.  - Racing distances range from one length of the pool to 1,500 meters (4,921.265 feet).  Round to the nearest ones, tenths and hundredths.  Rounding to the ones place: 4,921.**2**65 the 2 in the tenths place will leave the ones as a “1”  Rounding to the tenths place: 4,921.2**6**5 the 6 in the hundredths place will round the 2 up to a “3”  Rounding to the hundredths place: 4,921.26**5** the 5 in the thousandths place will round the 6 up to a “7”. | | | | | |
| **Guided Practice:**  **Round’em Up! Activity (Done in student journal/notebook)**  -Have the students write a 7-digit number, must include tenths, hundredths and thousandths. Teacher will need to display the following to determine rounding based on roll of die: example 1 = hundredths (.01, 1/100) 2 = tenths (.1, 1/10) 3 = ones 4 = tens 5 = hundreds 6 = thousands. The teacher rolls the die to determine the place value to round to, students round their number, check answer with partner or group. Teacher ask volunteer to share answer. Repeat activity with different numbers.  **Checking Understanding**  Give each student/group a card with a seven digit number, like numbers used in Round’em Up. Ask each student/group to round to the ones, tenths and hundredths place. | | | | | |
| **Independent Practice:**  **(Suggestion: Get video clips of the records being set to increase student interest.)**  **Problem 1:**  -The world record in the 1600 meter relay was 2.542 minutes. Round the time to the nearest ones, tenths, hundredths place.  **3**  **2.5**  **2.54**  **Problem 2:**  **-**The world record for the 26.2 mile marathon was 123.38 minutes. Round the time to the nearest ones, and tenths.  **123**  **123.4**  **Problem 3:**  -The world record for the Javelin throw is 104.80 meters. Round the distance to the nearest ones, and tenths.  **105**  **104.8**  **Problem 4:**  The world record for the long jump is 8.90 meters. Round the distance to the nearest ones, and tenths.  **9**  **8.9** | | | | | |
| **Closing/Summarizing Strategy:**  **Ticket out the Door**  **Use the following number: 23.507.**  **In their math journals/notebooks, have the students round to the ones, tenths, and hundredths place.**  **24**  **23.5**  **23.51** | | | | | |
| **Differentiation Strategies** | | | | | | |
| **Extension** | | | **Intervention** | | | **Language Development** |
| Have the students solve the following riddles:  1. I am a number. I am the smallest number that can become 500 when it’s rounded to the nearest 10. What number am I? 495  2. I am a number. I am the largest whole number that must equal two thousand when rounded to the nearest thousand. What number am I? 2,499  3. I am an amount of U. S. money. I am the cost of five $.88 hamburgers rounded to the nearest dollar. How much money am I? $4  4. I am a number. If you round the number of days in October to the nearest ten and round the number of days in February to the nearest ten, I am half of the product of those two numbers. What number am I? 450  Have students create their own and challenge other classmates. | | | Review the rounding raps with students.  Use the whole number: 2,462. Walk them through the process of rounding the thousands, hundreds and tens.  Use the same digits but plug in a decimal: 2.462  Let them realize that the rounding will give them the same results as the whole number.  Let the students solve rounding problems using dollar bills, dimes and pennies.  Example problem  1. Cindy spent $3.87 on lunch. Rounded to the nearest dollar, how much did she spend? $4  2. Jose bought several items at the store and received $2.09 in change. Rounded to the nearest tenth, how much change did Jose receive? $2.10 | | | Reinforce the vocabulary by having the students identify and match the place value names with the place values.  Review the rounding raps, have the students orally explain when to round up or when to leave the same.  Let the students solve rounding problems using dollar bills, dimes and pennies.  Example problem  1. Cindy spent $3.87 on lunch. Rounded to the nearest dollar, how much did she spend? $4  2. Jose bought several items at the store and received $2.09 in change. Rounded to the nearest tenth, how much change did Jose receive? $2.10 |
| **Assessment(s):**   * Collect journals/notebooks and check “Ticket out the Door” * In their math journals/notebooks, students round each of the following to the ones, tenths, and hundredths place   45.906 46, 45.9, 45,91  158.375 158, 158.4, 158.38  20.695 21, 21.7, 21.70  This can be done on a separate sheet or printed on a sheet ahead time to be collected. | | | | | | |
| **Teacher Reflection:** (Next steps?)   * What went well? * Specific notes about students’ thinking * Student understandings/misconceptions * What do I need to reteach/review tomorrow or in the future? * New ideas or changes for next time | | | | | | |